



JC06 Rec'd PCT/PTO 29 SEP 2005 PCT

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL
FORM

(to be used for all correspondence after initial filing)

	Application Number	10/531,042	
	Filing Date	April 12, 2005	
	First Named Inventor	Joseph P. KENNEDY, Jr.	
	Art Unit	Unassigned	
	Examiner Name	Unassigned	
Total Number of Pages in This Submission	27	Attorney Docket Number	GRA26 002

ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
20 Cited References, count as 1 page each	<input type="checkbox"/> CD, Number of CD(s) _____	
	<input type="checkbox"/> Landscape Table on CD	
Remarks		
The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 04-1679. A duplicate copy of this sheet is enclosed.		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	DUANE MORRIS LLP		
Signature			
Printed name	Mark C. Comtois		
Date	September 29, 2005	Reg. No.	46,285

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



ATTORNEY DOCKET NO.: GRA26 002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Patent Application of Joseph Kennedy, Jr., et al.

Serial No.: 10/531,042

Art Unit: Unassigned

Filed: April 12, 2005

Examiner: Unassigned

Title: WIRELESS COMMUNICATION NETWORK MEASUREMENT DATA
COLLECTION USING INFRASTRUCTURE OVERLAY-BASED HANDSET
LOCATION SYSTEMS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The below listed documents are identified for consideration in the examination of the subject application.

U.S. PATENTS AND PATENT APPLICATION PUBLICATIONS:

<u>Pat./Pub. No.</u>	<u>Patentee(s)</u>	<u>Issue/Pub. Date</u>	<u>Examiner Initials</u>
6,922,170	Alexander, Jr.	July 26, 2005	
6,845,240	Carlson, et al.	January 18, 2005	
6,839,539	Durrant, et al.	January 4, 2005	
6,834,234	Scherzinger, et. al.	December 21, 2004	
6,782,264	Anderson, et al.	August 24, 2004	
6,553,322	Ignagni	April 22, 2003	
6,501,955	Durrant, et al.	December 31, 2002	
6,477,161	Hudson, et al.	November 5, 2002	

6,470,195	Meyer	October 22, 2002
6,334,059	Stilp, et al.	December 25, 2001
6,311,043	Haardt, et al.	October 30, 2001
6,295,455	Fischer, et al.	September 25, 2001
6,212,319	Saleh, et al.	April 3, 2001
6,188,351	Bloebaum	February 13, 2001
6,144,711	Raleigh, et al.	November 7, 2000
5,870,029	Otto, et al.	February 9, 1999
5,506,863	Meidan	April 9, 1996
5,465,289	Kennedy, Jr., et al.	November 7, 1995
5,317,323	Kennedy, Jr., et al.	May 31, 1994
4,783,744	Yueh	November 8, 1988
US20040043775	Kennedy, Jr., et al.	March 4, 2004
US20020094821	Kennedy, Jr.	July 18, 2002
US20030190919	Niemenmaa	October 9, 2003

The below listed documents are enclosed for consideration in the examination of the subject application.

FOREIGN PATENTS AND PUBLICATIONS:

<u>Patent No.</u>	<u>Patentee(s)</u>	<u>Issue Date</u>	<u>Examiner Initials</u>
JP60-347529	NEC Corp.	December 22, 1994	

Relevance of Foreign Language Documents

1. **JP60-347529**

An English translation of the listed document has been provided.

OTHER PUBLICATIONS:

Leshem, et al., "Array Calibration in the Presence of Multipath," IEEE Transactions of Signal Processing, Vol. 48, No. 1, pp.53-59, January 1, 2000.

Ziskind, I., Wax, M., "Maximum likelihood localization of multiple sources by alternating projection", IEEE Trans. Acoust., Speech, Signal Process. vol. 36, no. 2 (Oct. 1988), 1553-1560;

Van Der Veen, M, Papadias, C.B., Paulraj, A.J., "Joint angle and delay estimation" IEEE Communications Letters vol. 1-1 (Jan. 1997), 12-14;

Schmidt, R.O. "Multiple emitter location and signal parameter estimation" Proc. RADC Spectrum Estimation Workshop, (Mar. 1999), 243-258;

Young-Fang Chen, Michael D. Zoltowski "Joint Angle and Delay estimation of DS-CDMA communication systems with Application to Reduced Dimension Space-time 2D Rake Receivers", IEEE Transactions on Signal Processing;

Paulraj, A.J., Papadias, C.B., "Space-Time Signal Processing for Wireless Communications", IEEE Signal Processing Magazine, vol. 11 (Nov. 1997), 49-83;

Paulraj, A.J., Papadias, C.B., "Space-Time Signal Processing for Wireless Communications: A Survey" Information System Laboratory, Stanford University;

Haardt, Brunner and J. G. Prosek "Joint Estimation of 2-D Arrival Angles, Propagation Delays, and Doppler Frequencies in Wireless Communications, Proc. IEEE Digital Signal Processing Workshop, volume 1, pages 1-4, Bryce Canyon National Park, Utah, Aug 1998.

M. Wax, "Position location from sensors with position uncertainty", IEEE Trans. Aero., Elect. Syst. AES-19, no. 2 (Sept. 1983), 658-662;

D.J. Torrieri. "Statistical Theory of Passive Location Systems", IEEE Trans. Aerosp. Electron. Syst. AES-20, no. 2 (Mar. 1984), 183-198;

Y.T. Chan and K.C. Ho, "A simple and efficient estimator for hyperbolic location", IEEE Trans. Signal Proc. 42, no. 8 (Aug. 1994), 1905-1915;

W.H. Foy. "Position location solutions by Taylor series estimation", IEEE trans Aerosp. Electron. System AES-12, no. 2 (Mar. 1976), 187-194;

R.G. Stansfield, "Statistical theory of DF fixing", Journ. IEE 94, part IIIa (Oct. 1947), 762-770

M.P. Wylie and J. Houtzman, "The non-line of sight problem in mobile location estimation". Proc. IEEE 5th International Conf. on Universal Personal Communications, vol. 2 (Oct. 1996), 827-831;

L.Cong and W.Xuang, "Non-Line-of-Sight Error Mitigation in TDOA mobile location" Proc. IEEE Global Telecommunications conference vol.1 (2001), 680-684;

P.C. Chen, "A non-line-of-sight error mitigation algorithm in location estimating" Proc. IEEE Conf. on wireless Communications Networking, vol. 1 (1999), 316-320;

N.J. Thomas, D.G.M. Cruickshank and D.I.Laurenson, "Performance of a TDOA-AOA hybrid mobile location system" 3G Mobile Communication Technologies Conf. Proc. 1 (Mar. 2001), 216-220

Caffery, J., Jr., et al., "Subscriber Location in CDMA Cellular Networks," IEEE Transactions on Vehicular Technology, Vol. 47, No. 2, May 1998.

Caffery, J., Jr., "A New Approach to the Geometry of TOA Location," IEEE, VTC 2000, pp. 1943-1949.

Respectfully submitted,

By:

L. Lawton Rogers, III

Reg. No. 24,302

Mark C. Comtois

Reg. No. 46,285

Patrick D. McPherson

Reg. No. 46,255

D. Joseph English

Reg. No. 42,514

Duane Morris LLP
1667 K Street, N.W., Suite 700
Washington, D.C. 20006
Telephone: (202) 776-7800
Telecopier: (202) 776-7801

Dated: September 28, 2005